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ABSTRACT

A study was conducted to (1) identify obstacles to self-directed learning, (2) develop strategies to overcome them, and (3) identify the self-directed learning readiness level of two groups of employees for possible clues in improving self-directed learning in the Phoenix Air Guard. The study used two group processes (the Delphi technique with a group of 25 professionals in the fields of adult and higher education and the Nominal Group Technique with a selected 21-member group of Air National Guard supervisors), and one test instrument, the Self-Directed Learning Readiness Scale developed by Lucy Guglielmino. The normative method of research was used to test the following null hypothesis: there is no significant difference in the scores on the Guglielmino scale between a randomly selected group of 25 workers and 25 retired workers of the Phoenix Air Guard. The Delphi process identified seven obstacles that hamper adult learning (other obligations, time management, efforts, lack of motivation, confusion over instructions, lack of resources, and institutional requirements), whereas the Nominal Group process produced a list of 28 prioritized strategies for dealing with the obstacles. The Self-Directed Learning Readiness Scale scores indicated no significant difference between the group means (therefore, no difference in readiness to learn based on age). The study's conclusions were translated into recommendations to encourage more self-directed study by members of the Phoenix Air Guard. Nineteen tables and a four page bibliography are provided. The appendixes include research instruments and score sheets. (KC)

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A Major Applied Research Problem Presented
to Nova University in Partial Fulfillment
of the Requirements for the Degree
of Doctor of Education

IMPROVING SELF-DIRECTED LEARNING

IN THE PHOENIX AIR GUARD

by

[redacted]

May 1986

The idea of encouraging self-directed learning in organizations, worldwide has been discussed at some length in management. Three general areas have been identified as requiring formal investigation. The purposes of this study were: (1) to identify obstacles to self-directed learning, (2) to develop strategies to overcome them, and (3) to identify the self-directed learning readiness level of two groups of employees for possible clues in improving self-directed learning in the Phoenix Air Guard.

This study was conducted utilizing two group processes and one test instrument. The first of these processes was the use of the Delphi Technique (Dalkey, 1969) with a group of twenty-five well-chosen professionals in the fields of adult and higher education. The goal of this segment was to produce a final summary identifying obstacles

to self-directed learning. This summary was used in the opening statement for the next group process.

The second group process involved the use of the Nominal Group Technique (Hentschel, 1984). A select twenty-one member group of Air National Guard supervisors focused on the issue of developing strategies to overcome the obstacles identified by the Delphi group. These findings were structured as recommendations in the study.

The test instrument was the Self-Directed Learning Readiness Scale developed by Dr. Lucy Guglielmino, University of Georgia. The normative method of research was used to test the Null Hypothesis: There is no significant difference in the scores attained on the Self-Directed Learning Readiness Scale (SDLRS) between a sample of workers and retired workers of the Phoenix Air Guard. An Alternative Hypothesis stating there was a significant difference was also stated and tested. These hypotheses were tested using an analysis of covariance at the .05 level of significance. An independent two-tailed z-test was used to compare the mean scores of the two groups.

In order to test these hypotheses, each group consisted of twenty-five subjects. All subjects were selected at random from an alphabetized computer listing. The two group sample was comprised of fifty subjects from a total population of 484 workers and retired workers.

The findings of the study were that the Delphi process identified seven obstacles that hamper adult

learning. These obstacles were: (1) other obligations, (2) time management, (3) requires a great deal of effort, (4) lack of motivation, (5) confusion over instructions, (6) lack of resources, and (7) institutional requirements. The Nominal Group process produced a list of twenty-eight prioritized strategies for dealing with these obstacles. The Self-Directed Learning Readiness Scale scores indicated that there was no significant difference between the group means. The scores also indicated that the mean scores ranked in the range of above average when compared against the national norms established by Guglielmino and Associates.

It was concluded that the Delphi Technique produced seven obstacles that hampered adult learning. The Nominal Group process gave the highest priority to the following seven strategies: (1) limit the number of sources that are "authorized" to obligate unit personnel, (2) seek professional literature dealing with time management, (3) prepare a formal briefing to all unit members on the amount of time it takes to be a Guardsman, (4) develop programs to improve advancement opportunities, (5) prepare introductory packets that contain easy to follow directions covering attendance, promotions, etc., (6) encourage the employer to seek out institutions that grant financial assistance, and (7) contract for lectures for the outside covering attitudes about self-directed learning.

Since the calculated z-value did not exceed the critical value, the Null Hypothesis could not be rejected. Finally, because there was no significant difference between the mean scores, it was concluded that age does not determine one's self-directedness.

Based upon the findings of the study, the following actions were recommended: (a) establishing a panel to review job tasking among workers, (b) securing additional professional literature in the area of time management, (c) designing a formal briefing package covering the time aspects of Guard participation, (d) developing a program to improve advancement opportunities, (e) designing an introductory packet that contains directions covering attendance, promotions, etc., (f) preparing a formal plan to seek out financial assistance for all members, (g) offering a lecture series from an educational institution covering developing attitudes towards self-directed learning, and (h) acquiring funds to support testing all unit members using the SDLRS. The SDLRS test results would then be used for planning future educational programs.

ACKNOWLEDGMENTS ii

LIST OF TABLES ix

Chapter

1. INTRODUCTION 1

Statement of the Problem 1

Background and Significance 3

Major Issues and Research Questions 10

Hypotheses 11

Purpose 12

Definition of Terms 13

Limitations of the Study 15

Assumptions 16

2. REVIEW OF RELATED LITERATURE 17

Barriers 17

Strategies 23

Self-Directed Learning 27

Summary 37

3. PROCEDURES AND METHODOLOGY 39

Introduction 39

Segment #1: Obstacles 40

Segment #2: Strategies 41

Segment #3: Self-Directed Learning Readiness Scale 42

TABLE OF CONTENTS (Cont.)

4 PRESENTATION OF RESULTS 41

Introduction 41

Obstacles Identified 42

Strategies Developed 45

Self-Directed Learning Readiness Scale 51

Summary 61

5 INTERPRETATION, CONCLUSIONS, AND RECOMMENDATIONS 64

Interpretation of Results 64

Conclusions 71

Implications for the Improvement of Educational Practice 77

Strategies for Improvement, Implementation and Diffusion 78

BIBLIOGRAPHY 78

APPENDIXES

A. SDLRS QUESTIONNAIRE 83

B. COVER LETTER AND QUESTIONNAIRE #1: DELPHI 87

C. COVER LETTER AND QUESTIONNAIRE #2: DELPHI 91

D. COVER LETTER AND QUESTIONNAIRE #3: DELPHI 95

E. INFORMATIONAL FLOW CHART 98

F. NOMINAL GROUP WORKSHEET 101

G. DELPHI PROCESS TALLY SHEET 102

H. SDLRS QUESTIONNAIRE COVER LETTER 104

I. INDIVIDUAL SDLRS SCORE REPORT 106

BIOGRAPHICAL SKETCH OF PARTICIPANT 108

LIST OF TABLES

Table

1. Respondents by Profession: Delphi Technique . . .
2. Obstacles to Self-Directed Learning Identified by the Delphi Technique Questionnaire #1 53
3. Obstacles to Self-Directed Learning Identified by the Delphi Technique Questionnaire #3 54
4. Nominal Group Process: Strategies Developed Obstacle: Other Obligations 46
5. Nominal Group Process: Strategies Developed Obstacle: Time Management 47
6. Nominal Group Process: Strategies Developed Obstacle: Requires a Great Deal of Effort . 48
7. Nominal Group Process: Strategies Developed Obstacle: Lack of Motivation 49
8. Nominal Group Process: Strategies Developed Obstacle: Confusion over Instructions . . 50
9. Nominal Group Process: Strategies Developed Obstacle: Lack of Resources 51
10. Nominal Group Process: Strategies Developed Obstacle: Institutional Requirements . . . 52
11. SDLRS: Demographic Distribution of Samples by Military Speciality 54
12. Demographic Distribution of Samples by Age . . 55
13. SDLRS: Demographic Distribution of Samples by Years of Military Service 56
14. SDLRS: Demographic Distribution of Samples by Marital Status 57
15. SDLRS: Scores and Education Level of Retired Workers (Group A) 59

LIST OF TABLES (Continued)

SDLRS: Scores by Ranges: Workers (Group A) . . . .

SDLRS: Scores and Education Level of Workers (Group B) . . . . . .

SDLRS: Scores by Ranges: Workers (Group B) . . .

Statistical Computations of the Self-Directed Learning Readiness Scores in Research Samples . . . . . .

Chapter I

INTRODUCTION

A major consideration in understanding the adult learning process is recognition of elements that can interfere with learning (Pellena, 1982:259). Content elements such as learning readiness, interest, and degree of self-directiveness have a direct effect on the [illegible] learning.

One of the most significant findings [illegible] about adult learning is that when adults go about learning new methods or concepts, they are highly self-directed (Knowles, 1978:181). Knowles continued by expressing the opinion that evidence is beginning to accumulate that when adults learn as a result of their own initiative they learn more deeply and permanently than when they learn by being taught. In fact, there is overwhelming psychological research evidence that a primary characteristic of adulthood is the psychological need and capacity to be self-directing (Knowles, 1978:181).

Cooper (1983:35) pointed out that humans learn almost constantly. He continued by saying that "life consists of a myriad of learning episodes about a variety of things." Much of this learning is tangential to one's work, hobbies, recreation, travel, or other interests. Gibbons,

pressure, autonomy, or [illegible] a warm [illegible] (1980:1).

According to Guglielmino, tomorrow's successful managers must be able to design their own learning [illegible] with constant dangers in the workplace. In a study conducted in a communications company, Guglielmino discovered even more evidence that self-directed learning is both a necessary and learnable skill. Her findings, based on administration of the Self-Directed Learning Readiness Scale (SDLRS) to 41 management and 318 nonmanagement workers, suggest that successful managers and nonmanagement workers in high-tech companies both understand the need to and attempt to practice self-directed learning (Guglielmino 1982:105).

Knowles (1975:18) excluded from his work on contract learning that in recent years restructured academic programs, and innovative educational institutions have begun utilizing self-directed learning outcomes. He continued by expressing the opinion that college classrooms are not key sites for major learning activities in the lives of adult learners. Current research in adult learning is reporting the preponderance of adults who conduct significant self-initiated learning activity, as well as the impact of continuous transformation of knowledge requiring adults to become more independent, creative learners (Tough, 1979:2).

[illegible] starting points for studying adult learning. A study can begin with (1) [illegible] education; (2) the needs and characteristics of a community or society; (3) the individual learner; (4) a philosophical position; or (5) one or more methods of learning or teaching. The starting point for this study is the adult learners, and their relationship to [illegible] education and self-directed learning.

It would be unrealistic to study self-directed learning as if it were an independent condition that was not affected by other variables both external and internal. External obstacles evoked by family and employers or coworkers demand strategies other than information and supportive individual or group counseling could assist adults to cope more successfully with various [illegible] or pressures. Strategies to deal with the [illegible] barriers of working adults include programs designed to [illegible] with common difficulties and specific counseling [illegible] interventions in groups or individual settings (Klevins, [illegible]).

Wasser's [illegible] findings in [illegible] to adult learner's participation revolved around institutional policies requiring strict attendance requirements. Other barriers mentioned were conflicts between classes and home, too much demand on family or [illegible]

time, feeling too old, poor vision, lack of transportation, dislike of tests, and defective instructional techniques.

Klevins (1978:220) summarized the area of barriers by expressing the opinion that adults are motivated to learn for numerous reasons. These motives are often closely connected to formal education background and to the different roles adults play as they develop. In spite of a need for further learning, individuals are sometimes blocked from participating in adult education. The obstacles are partly of the individual's making and partly from outside the individual in the environment. Managers and teachers ought to organize the learning experiences so as to take full advantage of the maximum performance that learners are capable of giving (Klevins, 1978:221).

Over the past twenty years, self-directed learning research has proceeded in three basic directions. The first of these directions has been the descriptive research emerging from the use of the learning interview schedule and its various modifications. These studies have contributed to a better understanding of the frequency of self-directed learning among various adult samples (Brockett, 1985b:56).

The second direction of research has focused on the relationship between self-directedness and a range of psychosocial variables, primarily through the use of the Self-Directed Learning Readiness Scale (SDLRS). The third major stream of self-directed learning research consists of

several studies exploring questions most appropriately addressed through various qualitative methodologies. Among these is Brookfield's (1981) investigation of working class adults. He concluded with several important insights such as the idea that self-directed learners often engage in a "fellowship of learning" in which a desire for recognition and competitive success is balanced by a desire to share one's expertise among other adult learners with like interest (Brockett, 1985b:57).

The third direction is the general format accepted for the third segment of this study. The Self-Directed Learning Readiness Scale has been selected as an instrument of value in meeting one of the objectives of this study. The SDLRS is an attempt to measure the extent to which individuals perceive themselves to possess skills and attitudes often associated with the readiness to engage in self-directed learning. In this manner, the SDLRS has helped to move self-directed learning research beyond description toward a greater understanding of the relationship between self-directedness and certain personological variables.

Brockett (1985b) best explained the concept of self-directed learning in the following way. He felt that the map of self-directed learning was a vast one. There is plenty of room to expand inquiry into new and unexplored territory, as well as to strive toward greater understanding

and improvement of territory that may be a [illegible] (Brockett, 1985b:59).

Major Issues and Research Questions

The principal objectives in this study were the determination of obstacles to self-directed learning, developing strategies to overcome them, and an examination of the self-directed learning readiness of workers and retired workers of the Phoenix Air Guard. This study involved two aspects of self-directed learning: internal or external obstacles to self-directed learning, and self-directed learning readiness.

Lengrand (1986:220) believed that changing technologies usually bring about new behavior patterns. If people want to enjoy the benefits of the changing technology, they have to adjust to these new ways. Although the basic function of education is the preservation and maintenance of a culture, it is frequently called upon to help people adjust to changed circumstances. Despite these facts, the Phoenix Air Guard's staff has never explored the relationship of its industrial work environment and the concept of self-directed learning. The first two segments of the study will explore the following questions: (1) What obstacles are present that prevent self-directed learning, and (2) What strategies can be used to overcome these obstacles?

The attributes of self-direction in learning are becoming increasingly important as the need for lifelong learning grows in strength. Guglielmino's Self-Directed Learning Readiness Scale is one of the few instruments identified in the literature for the purpose of measuring self-direction in learning. Even though the scale has been widely used, Long and Agyekum (1983:77) indicated that additional validation is needed.

The Phoenix Air Guard was founded in 1947. It has a full-time staff of 285 persons who coordinate, plan, and organized the training classes for over 1,000 additional part-time employees. No previous research has been accomplished focusing on the self-directedness of previous employees or how well the institution prepared its previous employee for the requirements of retirement.

Hypotheses

This study included test results produced in order to test the following Null Hypothesis (H_0):

H_0: There is no significant difference in the scores obtained on the Self-Directed Learning Readiness Scale between workers and retired workers of the Phoenix Air Guard.

This study included test results produced in order to test the following Alternative Hypothesis (H_1):

There is significant difference in the scores obtained on the Self-Directed Learning Readiness Scale between workers and retired workers of the Ibarapa Area.

Purpose

The purpose of this study was: (1) to identify barriers to self-directed learning, (2) to develop strategies to overcome them, and (3) to identify the self-directed learning readiness level of two groups of employees for possible clues in improving self-directed learning in the Ibarapa Area.

Definition of Terms

The following terms are defined for the purpose of this study:

1. Age: As an individual's level of development in terms of years, requisite for the development of an average individual.
2. Barriers or obstacles share the same common meaning: Any physical or mental structure designed to hinder learning or progress towards a set goal.
3. Decision makers: An individual who executes some form of product from the exercise which is used for their purpose.

Delphi Technique (DT) is a method for the systematic solicitation and collation of judgments on a particular topic through a set of carefully designed sequential questionnaires interspersed with summarized information and feedback of opinions derived from earlier responses.

Federal Civil Service system is an employment agency under the control of the Office of Personnel Management, U.S. Government.

Leader is the same person as the staff member who is a member of the support team.

Nominal Group Technique (NGT) is a structured group meeting which proceeds along a set form.

Phoenix Air Guard is a unit of the National Guard of Arizona.

Respondent group is a group which contains the being sought and who [illegible] questionnaire.

Retired worker is any former employee who meets the requirements for Federal Civil Service retirement and is retired.

Staff member and support team are the researcher and two other Phoenix Air Guard training staff experts.

...ward.

...ce of the project was ...
...e of the worker. It was felt that while the ...
...instrument may be appropriate for certain segments of ...
...their population, it may be inappropriate for others ...
...such as those at low level educational attainment. ...
...knowledge was being made in the selection of the sample ...
...over the education level workers.

A second limitation: The study did not really ...
...learning areas that are unique to the ...
...case of unskilled workers ...
...in the end, ...
...mission.

A third limitation: The study was limited by ...
...honesty and ability of the respondents to ...
...properly and quickly.

A fourth limitation: There was no control over ...
...the environment in which these surveys were carried out. ...
...intervening variables beyond the control of the ...
...may be reflected in the data collected.

For the purpose of this study, the

assumptions are presumed to be true:

1. that the Self-Directed Learning Readiness Scale is a valid and reliable measure of the level of self-directedness in learning,
2. that all respondents to this study have the knowledge necessary to respond accurately, and
3. that the Delphi Questionnaires were completed by the persons for whom they were addressed.

many adults, especially the least educated and poorest, [illegible] tend to, seek out, or [illegible] the information and information sources that are available. Psychological variables include personally held beliefs, values, [illegible] perceptions that exhibit participation [illegible] [illegible] [illegible]

most widespread, enduring, and persistent [illegible] of continuing education practitioners is to reduce barriers and to encourage participation and persistence in [illegible] educational programs for adults. Many [illegible] a definition of what, also with what we can do [illegible] barriers. The present inquiry [illegible] barriers that deter the general public from participating [illegible]

[illegible] Knowles (1983:18) wrote that one of the most significant contributions to [illegible] adult education movement since the early 1970s has been the [illegible] many adult learning endeavors are self-directed. Luis Guglielmino's research (1977) identified eight key factors that distinguish the self-directed learner so that [illegible] learning strategies can be applied in the [illegible] educational or work environment. These eight self-directed learning key factors are: (1) openness to learning opportunities, (2) self-concept of problem solver and effective learner, (3) [illegible] initiative and independence in learning, (4) love of learning, (5) [illegible]

responsibility, [illegible]

(8) ability to use problem solving and basic study skills.

According to Armstrong, Todd, and Warden, [illegible] the self-directed learner is identified. The [illegible] may be used to facilitate learning.

1. Encourage establishment of study [illegible]
2. Develop audio tapes to explain [illegible] of evening [illegible]
3. [illegible] students.
4. Send welcome letters to [illegible] workers.
5. Send [illegible] to all [illegible] provide [illegible] with [illegible] good responses.
6. Review objectives with learners.
7. Elicit suggestions for further development
8. Encourage development of learning contr[illegible]

Basically, learning strategies include any thoughts or behaviors that help people to acquire new information in a way that the new information is integrated with previous existing knowledge (Weinstein, 1987:590). Self-directed learning requires a different set of skills and strategies

These must be discovered and applied by the effective self-directed learner (Knowles and Associates, 1984:xvii).

In a 1982 study conducted for a major communications company, Guglielmino (1982:86) discovered even more evidence that self-directed learning is both a necessary and learnable skill. He determined that five strategies need to be incorporated into a company's policy and procedures to encourage self-directed learning. These five strategies are:

1. Find out how you and your trainees rate as self-directed learners right now. Administer the SDLRS.
2. Do a needs assessment on the company or institution to learn its orientation.
3. Set learning objectives. Encourage the training staff to determine what self-directed learning experiences are important.
4. Enter into an implementation phase as a direct result of superior staff planning.
5. Evaluate after each project that has been initiated to encourage self-directed learning

By conducting experiments with innovative strategies intended to help learners who had previous lack of success in learning, Dunn and Dunn found that most materials and methods work with some learners but not with others. Their studies demonstrated that individuals who were successful

with a particular strategy or set of materials had similar characteristics. Dunn and Dunn conducted experimental studies and concluded that individuals respond uniquely to their immediate environment regardless of their age, ability, socioeconomic status, or achievement level. Some require absolute silence in order to concentrate, while others can "block out" other sounds and conversation (Barker, 1982:35).

Darkenwald and Larson (1980:63) believe that the following strategies need to be incorporated to provide self-directed learning. They encouraged the use of flexible schedules and a variance in place locations to reduce cost of education and to help reach professionals who want to be self-directed learners. Adult education assumes that students are already functioning as adults in society, thus, its mission is not preparatory so much as it is in assistance--helping adults to realize their potential, make good decisions, and in general, better carry out the tasks and responsibilities inherent in the adult role (Knowles and Merriam, 1982:77).

Spear's and Mocker's (1984:1) findings provide support to position by researchers that more needs to be understood about the self-directed learning process itself. They indicated that the study should be directed toward how the structure for learning is constructed and how and why self-

directed learners make decisions on their own

activities proceed.

The strategy of [illegible] ...ibes to work on [illegible] institutional obstacles opposed to the development of lifelong education; or on the other hand, it is rediscovering those institutions and social, cultural, and [illegible] aspirations, their will [illegible]

In conclusion, these factors must be [illegible] planning and implementing programs for self-directed

[illegible]

(d) exhibiting the characteristics of self-[illegible] professional, and can be facilitating and supporting those characteristics in others and the process of changing curriculum to encouraging and support self-directed learning (Long and Blanchard, [illegible])

Research into self-directed learning [illegible] chief growth area in the field of adult education research in the last decade (Brookfield, 1984:59). The direction of research into self-directed learning has [illegible] surprisingly, the individual learner. In [illegible] present a realistic description of such learning as an intentional pursuit in clearly specified learning projects, the adult learner exercising control over the content and method of learning--an almost exclusive emphasis has been placed on the individual aspects and isolated nature of such learning (Brockfield, 1984:66).

Thus, Brookfield (1984) emphasized strong [illegible] directed learning as conducted by the individual learner. He [illegible] found that subsequent research findings have [illegible] individual learner as a creative, "world-making" [illegible] learning. Within this scope of adult learning, it [illegible] appears that the traditional process of adult education, that of sitting in a classroom with a [illegible] directed activities, is not totally prevalent. Not only is this process not prevalent, but neither is it realistic planning for new learning. Adults, by themselves or with peers, do much of this planning in the absence of a professional person (Verduin, Miller, and Greer, 1980:96).

Mezirow (1985:142) expressed the opinion that useful to think of learning as the extension of one's

ability to make explicit [illegible] contextualize (to make associations with [illegible] relevant, valid) what is to be learned, and [illegible] aspect of one's engagement with the world. Learning involves making explicit, elaborating, and contextualizing, and involves validation performance as well. Mezirow, [illegible]. Knowles, in a personal letter [illegible] asserts:

> Adults have been so conditioned by their previous elementary and secondary school experiences to see the role of learner as a dependent role that they almost always resist taking responsibility for their own learning in formal instruction situations (but not in life situations). Accordingly, they need to have an orientation experience to help them make the translation from dependent to self-directing learners.

[illegible] research has viewed self-directed learning as [illegible] perspectives. Research in the nineteen seventies viewed self-directed learning as a process where the learner assumes primary responsibility for planning, implementing, and evaluating a learning experience. The [illegible] and viewpoint moved away from the descriptive studies projects approach toward work to [illegible] build a theoretical framework for understanding self-directed learning (Brockett, 1985a:211).

Two early 1980s studies utilizing a qualitative approach have made important contributions to this theory building process. Gibbons, et al. (1980) found that self-directed individuals share a number of similar characteristics. They are apparently related to self-directedness such as primary experience in the area of

expertise, industriousness, persistence, self-discipline, and creativity.

Another relevant study completed by [illegible] reported that interviewees felt their learning involvement to be on-going rather than short-term, and to transcend the boundaries of traditional subject areas. Also, the interviewees felt themselves part of a group of "fellowship in learning" characterized by a willingness to share one's own expertise with others, and a desire for recognition through competition in the area of endeavor (Brookfield, 1981:26).

In recent history, a third branch of adult learning research has consisted of quantitatively-oriented studies that have examined the relationship between a range of psychological and educational variables and self-directedness. Since the development of the Self-Directed Learning Readiness Scale (SDLRS) by Guglielmino (1977) various studies have found evidence that learners' perceptions of self-directedness are related to such factors as creativity, self-concept, actual involvement in learning projects activity, health-promoting behavior, and motivational orientation all show relationship [illegible] (Brookfield, 1985a:212).

A process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.

identifying obstacles to self-directed learning. This

group process.

The second group process (Segment

use of the Nominal Group Technique (Hentschel, 1984).

select twenty-one member group of

Supervisors focused upon the issue of

to overcome the obstacles identified by the subjects in

process.

Finally, the test instrument in the

Learning Readiness Scale (Appendix A) developed by Dr.

Pollonino, University of Georgia,

five subjects each were asked

[illegible]

[illegible] the letter to each respondent and [illegible] included in Appendix B of this study.

Upon the twenty-five questionnaires [illegible] [illegible] personnel and support team [illegible] [illegible] the results of pretest Questionnaire #2. The [illegible] Questionnaire #2 was mailed to each respondent approximately one month after they received the first questionnaire.

Appendix C. The staff member and support team

was then forwarded to the respondent.

spring statement

obstacles were identified in

participation

[illegible] the Participants

A select twenty-one [illegible] supervisors focused upon the issue of developing strategies to overcome the seven obstacles identified by the Delphi Technique. The first ten members of the twenty-one member group consisted of two members from each of the following career fields: Services, Operations, Resources Management, Civil Engineering, Communications. Five members from Personnel and six members from Aircraft Maintenance made up the remaining eleven members.

All individuals were volunteers [illegible] and showed a desire to complete this project. Each group member had the military rank of at least a [illegible]

[illegible]

Once the group was identified, the members were divided into three small groups of seven members each. The first member listed on the roster for the Civil Engineering and two support team members acted as recorders for the other two groups. A Nominal Group worksheet was given to each group member which included the findings of the Delphi listing of obstacles identified by the Delphi Panel. A copy of this document is attached to this study as Appendix F.

The findings of the group were included in an accurate aggregation of group judgmental [illegible] three

groups reached an independent list of strategies, two group recorders met together and formulated a combined listing by rank-order. The finalized list was given to all twenty-one members. The staff member then led the entire twenty-one member group through the following steps:

1. Serial discussion of the master list.
2. Discussion of the preliminary vote and relative importance.
3. Final vote.

After the discussion, the twenty-one members in one large group engaged in a final vote [illegible] and rating; and the vote was tabulated and reported. The strategies were then formulated into a list of recommendations to be included in the [illegible] implementation [illegible] of the [illegible].

Segment 2: Self-Directed Learning Readiness Scale

The end product of this segment of the study is determining the self-directed learning readiness level for a sample of both workers and retired workers of the Phoenix Air Guard. The normative survey method was used to evaluate the self-directed learning readiness level of the two groups.

current full-time and retired workers [illegible] study by the Unit Personnel Officer. These lists contained a total population of 254 full-time and [illegible] The sample was drawn by selecting every tenth name [illegible] full-time employee list (in alphabetical order) and every tenth name (in alphabetical order) from the retired list. This resulted in the [illegible] twenty-five subjects.

The full-time subjects were [illegible] site to complete the SDLRS. The retired personnel were contacted by mail and asked to complete the Self-Directed Learning Readiness Scale. A copy of the cover letter used for this process is included in Appendix H. A 100 percent return rate was accomplished [illegible] delivery.

Survey Instrument

The instrument which was utilized to collect data from the workers and retired workers for this study was the Self-Directed Learning Readiness Scale (SDLRS). The SDLRS is a fifty-eight item Likert scale developed to determine the extent to which individuals perceive themselves to possess skills and attitudes associated with self-directed learning (Brockett, [illegible]).

learner.

Self-concept as an effective learner.

Readiness for learning.

Motivation for learning.

Desire for learning as a lifelong beneficial process.

Initiative in learning.

Self-understanding.

Acceptance of responsibility for learning.

Love of learning.

Creativity (view of learning as a lifelong beneficial process).

Ambiguity and complexity in learning.

Problem solving (view of learning as a lifelong beneficial process).

Self-understanding.

Acceptance of responsibility for learning.

Love of learning.

Creativity (view of learning as a lifelong beneficial process).

Ambiguity and complexity in learning.

Problem solving (view of learning as a lifelong beneficial process).

Initiative in learning.

behavior, and motivational orientation. Over 1,000 adults and 5,000 children have taken the Self-Directed Learning Readiness Scale. National norms have been established for adults and children.

Treatment of Data

The purpose of this segment of the investigation was to test the null (H_0) and alternative hypothesis (H_a). The null hypothesis was: There is no significant difference in the scores attained on the Self-Directed Learning Readiness Scale (SDLRS) between a sample of workers and retired workers of the Phoenix Air Guard. The alternative hypothesis was: There is a significant difference between the scores of both groups.

After completion of the SDLRS by the sample members, the testing results were forwarded to Guglielmino and Associates for scoring. A score report was furnished that gives the individual's name or ID number, SDLRS scores, sample mean, standard deviation, variance, standard error, minimum and maximum score, skewness, number of valid observations, and missing observations. This information allowed for the comparison of each individual score to the sample mean and to the national adult norms which are also provided. In addition, Guglielmino provided a chart for determining if an individual's score is low, below average, average, above average, or high. The data can also be examined by sex, age, race, or by any other factor that may

be proven through statistical analysis of the raw test results.

The level of significance upon which the researcher must decide to either accept or reject the null hypothesis is the 0.05 level. This level was selected to prevent rejection of the hypothesis simply due to a Type I or Type II error. In testing for significance of difference between [illegible] independent groups, two-tailed [illegible]

Introduction

The primary objectives in this study were to determine obstacles to self-directed learning, to develop strategies to overcome them, and to examine the self-directed learning readiness of workers and retired workers of the Phoenix Air Guard. This study utilized two group processes and one test instrument. The first of these processes (Segment #1) made use of the Delphi Technique to produce a summary identifying obstacles to self-directed learning. The second group process involved the use of the Nominal Group Technique. Supervisors of the Phoenix Air Guard focused upon the issue of developing strategies to overcome the obstacles identified by the Delphi Technique.

The test instrument used in this study was the Self-Directed Learning Readiness Scale (Appendix A) developed by Dr. Lucy Guglielmino. Two groups of twenty-five subjects each were administered this test instrument. Following Guglielmino's suggestions this researcher established the following raw score ranges for reporting the findings of this instrument. Guglielmino suggested that scores between 58 and 176 be reported as low, scores between 1

reported as major, [illegible]

to above average [illegible]

[illegible]

[illegible] to the respondents [illegible]

the identification of [illegible] barriers or obstacles. [illegible]

obstacles were then grouped by two [illegible] readers to combine [illegible]

identified more than once. The [illegible] problem [illegible]

questionnaire provided [illegible] thirty obstacles

questionnaire [illegible] thirty obstacles and they were [illegible] comment on an item. They were [illegible] in favor of an item or request clarification. The thirty obstacles identified by Questionnaire #1 are [illegible] obstacles varied from simple obstacles like a [illegible] of money to complex [illegible] hamper adult education.

[illegible] Questionnaire #2. [illegible] seven obstacles that they believed were [illegible]

Table

Self-Directed Learning
by the Delphi Technique
Questionnaire #1

1.	Isolation	15.	Confusion over inst
2.	Lack of feedback	16.	Health
3.	Lack of resources	17.	Lack of money
4.	Geography	18.	Inadequate background
5.	No resources	19.	Time management
6.	Family problems	20.	Institutional require
7.	Lack of ability	21.	Lack of motivation
8.	Lack of interest	22.	Lack of direction
9.	Other obligations	23.	Lack of confidence
10.	Space to study	24.	Lack of opportunit
11.	Requires a great deal of effort	25.	Lack of importance of program
12.	Organizational	26.	Maturity level of l
13.	Cultural	27.	Competency level
14.	Political	28.	Lack of goal toward
15.	Social factors	29.	Fear

the self-directed learning of adult learners.

to assign the value seven (7) to the most important obstacle, six (6) to the next most important obstacle, and so forth to a value of one (1) given to the least important of the top seven out of thirty. All twenty-five respondents completed the questionnaire and this portion of the process took about two weeks to complete by mail.

The scores were tabulated with time management receiving the highest score of seventy-five points. In total, fifteen obstacles received scores that ranged from seventeen as a low to seventy-seven as a high. These

member was then asked

Nominal Group Process: Strategies Dev
Obstacle: Time Management

Strategy

Incorporate self-assessment

The manufacture of a formal briefing concerning how much

the suggestion of the group to help employees better budget their personal activities. This briefing would then allow each learner to properly budget activities against known expectations by the institution. The issue of on-duty study was also mentioned as a possible way to reduce the amount of [illegible] study time that is required by all unit members.

In order to handle the Lack of Motivation obstacle [illegible], the group suggested the development of three different programs or systems and the testing of the employees to determine learning needs. The highest priority was given towards the development of a program to improve advancement opportunities. The second program requested deals with developing some form of formal reward system [illegible] encourage high learning orientation. Career Development focused the last program with concerns around instructing supervisors and members to [illegible] self-directed learning. [illegible] programs all had the same goal of improving [illegible] motivation towards self-directed learning.

The Confusion over Instructions obstacle, listed in [illegible] was tackled by improving written procedures with this goal. An introductory packet which contains easy to follow directions covering attendance and other [illegible] procedures would clarify this situation.

Table 8

Nominal Group Process: Strategies Developed
Obstacle: Confusion over Instructions

Rank	Strategy
1	Introductory packet which contains easy to follow directions covering attendance, promotions, etc.
2	Name and telephone listing handout of offices concerned with major functions of the base
3	Weekly bulletin after management meetings passing along information
4	Upcoming events hotline, employees can call in to hear next quarters' activities

A listing containing points of contact with [illegible] and telephone numbers was viewed as being needed by all [illegible] personnel. A weekly bulletin was identified as a method to better promote ideas generated out of staff meetings. This strategy was ranked just above the concept of having a telephone call-in line that would describe upcoming events.

Table 9 includes what the group viewed as the strongest strategies to deal with the obstacle Lack of Resources. The highest priority was given to encouraging the employee to seek out institutions that grant financial assistance. The next priority was given to generating an

Table

Nominal Group Process: Strategies Developed
Obstacle: Lack of Resources

Rank	Strategy
	Encourage the employer to seek out institutions that grant financial assistance
	Prepare an educational program on the benefits of the new G.I. education bill
	Disseminate information about community social service agencies to encourage employers to seek assistance
	Provide educational counseling during evening periods after working hours

education program that would explain to the public the new G.I. bill legislation. The third strategy was to encourage employers to seek out assistance from social agencies. The final strategy was a unique idea to provide educational counseling after duty hours. This would encourage participation by both technicians and drill status Guardsmen.

The final obstacle [illegible] (Table 10) was attacked by the group with the highest priority being given to lectures from the outside in the area of attitude adjustments. These lectures were seen to help explain the true function of the Guard to the workers. This would assist the workers in accomplishing their self-

directed learning goals by better knowing what the institution expected. It is also hoped that it would better prepare the work force for accomplishing high stress missions by letting everyone know exactly what their individual role was in the scheme of things.

Table 10

Nominal Group Process: Strategies Developed
Obstacle: Institutional Requirements

Rank	Strategy	Score
1	Lectures from the outside (attitude)	
2	Institute flextime program to allow travel to and from work at more desirable hours	
	Do away with mandatory monthly drill weekend go to a night time type of schedule	
	Introduction audio tapes to orient new members to staff members	

The next two strategies involved the altering of work schedules to permit better utilization of workers' driving time. The base's location definitely presents a handicap to effective scheduling of personnel. The group noted that work schedules have to be planned around peak commuter periods due to inadequate road systems leading to the base. The final strategy looked into the concept of producing an audio tape that would orient new members of the unit to the senior staff.

conclusion.

The Nominal Group process generated a listing of twenty-eight strategies that can be explored to help reduce obstacles to self-directed learning by all employees. These strategies were then priority listed by obstacle so that the by-product presented is a workable listing that can be implemented either in its entirety or one strategy at a time. These strategies have been formulated into a list of recommendations included in the Diffusion and Implementation section of the study.

Self-Directed Learning Readiness Scale

The instrument that was used to collect data from the workers and retired workers for this study was the Self-Directed Learning Readiness Scale. The purpose of this segment of the investigation was to test the null (H_0) and alternative hypothesis (H_1). The null hypothesis was: There is no significant difference in the scores attained on the Self-Directed Learning Readiness Scale (SDLRS) between a sample of workers and retired workers at the Phoenix Air Guard.

This section of the study will present the background data for the two samples. The first area noted is the distribution of the two samples by military specialty. Here (Table 11) it is noted that the two samples selected at random did share a fairly well balanced

percentage of membership according to their military [illegible]. Retired workers were from all seven specialty career fields with the largest percentage coming from personnel. The lowest percentage of workers in both groups came from the medical field with pay [illegible] being selected as a career in each group.

Table 11

[illegible] Demographic Distribution of Sample By Military Specialty

Specialty	Retired Workers	Workers
Boom Operator		
Medical		
Personnel		
Aircraft Maintenance		
Pilot		
Navigator		
Management		

The average age of the worker sample was [illegible] years. The average age for the retired workers was 54.5 years. Table 12 depicts the ages of both samples by ten year groupings. The older ages of the retired workers is to be expected since this study did require membership for inclusion in this sample be restricted to retired personnel from the military.

Table 12

Demographic Distribution
Samples by Age

Age Group	Retired Workers	Workers
20-29		
30-39		43
40-49		52
50-59	24	
60-69		

The next background data that were compared were years of military service. Table 13 shows the military service status of each sample subject divided into two age groupings. The highest time subject had 42 years of service and the lowest time subject had 3 years. The average years of service for the worker subjects was 14.2 years and for the retired workers' group was 20.6 years.

21-30

31-4

Over 4

N=75

status. Each subject was asked to report their marital status. Although this information may not be [illegible] useful, it can be examined [illegible] affection. This [illegible] employed in Table 11.

[illegible] by Marital Status

Status
Married
Single
Divorced
Widowed

SDLRS Scores

The results of the administration of the Self-Directed Learning Readiness Scale to the two samples of military members of the Phoenix Air Guard are revealed in the following profiles. Table 15 and Table 17 indicate the SDLRS score and education level of each participant in the assignment at the study.

Table 15

SDLRS Scores and Education Level of Retired Workers (Group A)

Type of Study	SDLRS Score	Education Level
		BA Plus
		BA
		HS
		HS
		BA
		AA Plus
		HS
		BA
		MA
		HS
		MA
		BA
		HS
		HS
		HS
		HS
		HS
		MA
		HS
		HS

Range

High

Average

surveys were able to be [illegible]

return rate.

[illegible]

SDLRS: Statistical [illegible]
Self-Directed Learning Readiness Scores in [illegible]

Group	Number in Group	[illegible]	[illegible]	[illegible]
A	[illegible]	[illegible]	[illegible]	4.81
B	[illegible]	[illegible]	[illegible]	[illegible]

In testing the [illegible] the independent t-test (two-tailed) was used. The mean for retired workers (Group A) was 249.72, while the mean for the workers (Group B) was computed to be 240. The calculated z-ratio used to determine a significant difference between groups was computed to be [illegible]. The critical z-values at the .05 level for two-tailed tests are [illegible] to -1.96.

Summary

The results of this study were presented in the sections that correspond with the three purposes presented in Chapter I. They were: (1) to identify obstacles to self-directed learning, [illegible]

overcome them, and [illegible] identify the self-directed learning readiness level of two groups of employees for possible clues in improving self-directed learning in the Phoenix Air Guard.

The Self-Directed Learning Readiness Scale [illegible] reflect two means that were only 1.4 points apart with a possible testing range from 58 to 290 points respectively. Some thirty-six percent of each group tested in the [illegible] range with no one testing in the low range.

The next chapter will deal with a detailed discussion of these results. The chapter will [illegible] conclusions based upon data indicated in this chapter and Chapter 2. Finally, implications for future study will be presented to promote adult education.

Chapter

INTERPRETATION, CONCLUSIONS, AND RECOMMENDATIONS

In the final chapter of this Major Applied Research Project, the results of the study were interpreted, conclusions were drawn, and recommendations were made. Strategies for diffusion, implementation, and improvement of current educational practice were also given.

Interpretation of Results

Research Q1: Obstacles Identified

The end product of the Delphi Technique was the identification of seven obstacles that hamper self-directed learning. This twenty-five member group of working professionals placed the greatest amount of importance on these seven obstacles. (1) other obligations, (2) time management, (3) requires a great deal of effort, (4) lack of motivation, (5) confusion over instructions, (6) lack of resources, and (7) institutional requirements.

As identified in the Review of Literature, all seven obstacles do appear to fit into one of the four categories reported by Darkenwald (1984). They placed all obstacles in one of four categories: Situational, Institutional, Informational, or Psychosocial. All seven obstacles fit

related to the adult learner's life situation, [illegible] of work or learning, [illegible] psychosocial needs.

In the situational category, Other Obligations, Time Management, and Lack of Resources can all be viewed as factors that relate to an individual's life context. The Institutional category includes Confusion over Instructions and Institutional Requirements as being barriers created by learning institutions or agencies. The Informational category captured one obstacle labeled "Requires a Great Deal of Effort." This category centers upon the problems of adult learners not seeking out the information resources totally available. The remaining category of Lack of Motivation can be viewed as belonging to the last category of Psychosocial. Here, an individual's held beliefs or values hamper the learner's ability to [illegible] the subject being studied.

The Delphi Technique utilized for this study produced a final priority listing of seventy obstacles. This three-step process allowed each respondent the opportunity to indicate their personal ranking to the obstacles identified. This inquiry sought to identify the barriers that deter [illegible] general public for participation in organized adult education. The Delphi Technique has been used in this study to build upon the findings of other educators.

Several Strategies Defined

One of the strategies noted by Armstrong, [illegible] Watson (1985) was to elicit suggestions for future development. The strategies identified by the Nominal Group process used for this study provided suggestions [illegible] with this concept. The top rated strategies were:

1. Limit number of sources that are authorized to obligate unit personnel.
2. Seek professional literature [illegible] books, dealing with time management.
3. Formal briefing to all unit members on the amount of time it takes to be a Guardsman.
4. Develop programs to improve advancement opportunities.
5. Develop introductory packet with [illegible] to follow directions covering [illegible] promotions, etc.
6. Encourage the employer to seek out institutions that grant financial assistance.
7. Lectures from the outside (attitude)

These seven top ranked strategies provide a [illegible] planning platform for taking steps to improve self-directed learning in the Phoenix Air Guard. A comprehensive list of recommendations was formulated from the list of twenty-eight strategies to overcome the obstacles identified by the Delphi Technique.

It is also interesting to note the work was a relationship observed between the employee and their personal scheduling problems. One strategy noted dealt with getting family members involved in the planning of the work schedules. A second strategy recommended that a flex[illegible] program be implemented to allow for work at less desirable hours in order to better avoid city rush hour traffic. Another personal type of strategy recommended disseminating information about community social service agencies to encourage employers to seek assistance.

As noted by Della-Dora and Blanchard (1979) the administrators must take an active role in exhibiting the characteristics of self-directedness, of self-actualizing or helping professional and in facilitating and supporting these characteristics in others. The involvement of the twenty-one supervisors with the determining of strategies brought this concept to light. It had the possibility of making all of them think a little more about what makes their workers act in a self-directed manner.

The group process did provide a foundation for everyone to review the concepts of self-directed learning. Material from the Review of Literature was provided to each supervisor. The process also forced each one of them into a choice of how they viewed the seven obstacles identified in order to formulate workable strategies.

Segment #1: Self-Directed Learning Readiness Scale

Guglielmino reported that the average score for adults completing the questionnaire is 214. The standard deviation is 25.59. The SDLRS measures the participant's readiness for self-directed learning. In this Phoenix Air Guard study, thirty-six percent of each group scored in the high range with scores between 252 and 290. Thirty-two percent of the retired workers and thirty-six percent of the workers scored in the next highest range of above average with scores between 227 and 251.

An average score indicates that the learner is likely to be successful in more independent situations but not fully comfortable with directing the entire learning process (Smith and Bowes, 1986:86). The Phoenix Air Guard study resulted in twenty-eight percent of the retired workers scoring in the average range with twenty-four percent of the workers achieving test scores between 202 and

Finally, persons with below average scores on the instrument prefer more traditional structural classroom settings (Smith and Bowes, 1986:86). This Phoenix Air Guard SDLRS study demonstrated test results that showed only one person in each group scored in the range of 177 to 201 points. No participants scored in the low range of 49 to 176 points.

The present study was designed around two [illegible] participants that shared several common characteristics [illegible] did have one physical item different: their ages. The two youngest participants (age 30) scored 224 and 223 in comparison to the two eldest participants (age 49 and 48) who scored 221 and 238 respectfully. Age appears to have little or no effect in determining results in this study. The close mean scores between groups also assisted in verifying this concept.

In relation to the Null Hypothesis, a two-tailed test of significance of difference between means for a large sample approach was used. In general, a z-value (critical ratio) between +1.96 and -1.96 at the .05 level means that the Null Hypothesis cannot be rejected. It is not unreasonable to believe that the two samples came from two populations with equal means. If the z-value exceeds the +1.96 to -1.96 values then the Null Hypothesis is not supported because the difference between the two means are statistically significant. The findings of the study revealed a critical ratio of -.21. This score places the difference between the mean scores well within the range of the stated z-values. A conclusion supporting the Null Hypothesis may be verified by statistical data in this study.

There was one alternative hypothesis stated in the beginning of this Phoenix Air Guard SDLRS study. This

[illegible] scores obtained on the Self-Directed Learning Readiness Scale between workers and retired workers of the Phoenix Air Guard. The actual difference between the two mean scores was only 1.4 points. Both groups had [illegible] a point total of 198 points. The [illegible] that the two group test scores [illegible] close in the final analysis.

Unlike the Air Guard study [illegible] another data base concerning workers [illegible] with the exception of the two medical doctors and the one lawyer in the worker group, all forty-seven other workers could be defined as members of the working class rather than middle class adults. Thirty-six percent of the forty participants are high school graduates. The mean [illegible] individuals was 116. In a [illegible] this group in the [illegible] average range. Therefore, this study can be viewed as supporting the relationship noted by Brookfield [illegible] education level and [illegible] SDLRS scores.

The Self-Directed Learning Readiness Scale appeared to provide the learning readiness level of two samples including present and retired workers of the Phoenix Air Guard. These data will be used to generate [illegible] to seek out support for implementing changes in present learning methods utilized with Phoenix Air Guard workers.

opportunities.

Since the calculated z-value does not exceed the critical value, the Null Hypothesis, there was no significant difference in the scores attained on the Self-Directed Learning Readiness Scale (SDLRS) between a sample of workers and retired workers of the Phoenix Air Guard, cannot be rejected. There was no significant difference between the mean test scores of the two groups. The Alternative Hypothesis, there was significant difference in the scores obtained on the Self-Directed Learning Readiness Scale between workers and retired workers of the Phoenix Air Guard, can be rejected. Since the mean for the retired group was 240.72 and the mean for the worker group was 242.12, it can be concluded that both groups scored above

average [illegible] readiness.

4. Since there was no significant difference between both groups' scores, it can be [illegible] that age has no relationship to self-directed learning readiness scores.

Implications for the Improvement of Educational Practice

Obstacles and Strategies

Throughout one's work career, individual and group counseling constitute key components in continuing education programs for workers. Since all adults can experience unique external barriers, as well as psychologically imposed obstacles that inhibit them from functioning fully as workers, obstacle identification plays a key role in providing support and information. Identification of the seven obstacles to self-directed learning and the formation of the twenty-eight strategies to overcome them will aid the entire work force in its effort to improve worker learning effectiveness.

Self-Directed Learning Readiness Scale

The SDLRS functions both as an instrument for psychological research and as a diagnostic tool. It is recognized that self-directed learning readiness is one of the major branches of self-directed learning research.

learning theory and human

limit the number of courses that are available to Obligated unit personnel.

2. Additional professional literature in the area of time management must be [illegible] disseminated to the work force.

3. A formal briefing package needs to be designed covering the time aspect of Guard participation.

4. Programs should be developed to improve advancement opportunities.

An introductory packet should be developed [illegible] initial orientation [illegible] directions, etc.

A formal plan can be developed to seek out financial assistance programs for all members.

A lecture series must be purchased from an educational institution covering developing an attitude towards self-directed learning.

All unit members should be tested using the SDLRS. This information would then be used for planning new educational programs.

Strategies for Improvement, Implementation, and Diffusion

The results and recommendations of this study will be diffused and implemented in the following five-step plan.

Step One

Each individual completing the SDLRS has received a copy of the score along with a letter of explanation that helps each person understand how he scored in relation to his sample subjects and the rest of the adult population that has been tested by other researchers (Appendix I).

Step Two

All four institutional directorates and the program manager have received a draft copy of the report. A final copy of the report will be prepared in the same format as

required for the Major Applied Research Project and forwarded to their attention once it is finally approved. They will also receive a Briefing based upon the findings of this study with special emphasis on strategies to overcome adult learning barriers.

These members of the Phoenix Air Guard senior management staff will also receive a copy of the individual scores of all subjects and a letter of explanation highlighting how their workers scored in relation to the retired workers AGE national worker norms (ranges of scores).

Step Three

A recommendation will be drafted using the data from this study to allow the entire Phoenix Air Guard population to be tested using the SDLRS. A large capital expense would be required to accomplish this testing, but this study definitely serves as justification for the budget expense request to the National Guard Bureau.

Step Four

Dr. Paul Guglielmino of Guglielmino and Associates has requested an abstract of the procedures, methodology, and results of the study utilizing the Self-Directed Learning Readiness Scale. This abstract will be included in an upcoming Guglielmino publication concerning uses and findings of the measurement.

Step Five

A copy of the approved Major Applied Research Project will be forwarded to the National Center for Research in Vocational Education (ERIC) for possible inclusion in the ERIC system.

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APPENDIX A

SDLRS QUESTIONNAIRE

Name

Date

QUESTIONNAIRE

INSTRUCTIONS: This is a questionnaire designed to gather data on learning preferences and attitudes towards learning. After reading each item, please indicate the degree to which you feel that statement is true of you. Please read each choice carefully and circle the number of the response which best expresses your feeling.

There is no time limit for the questionnaire. Try not to spend too much time on any one item, however. Your first reaction to the question will usually be the most accurate.

ITEMS	RESPONSES					
	Almost never true of me. I hardly ever feel this way.	Not often true of me. I feel this way less than half the time.	Sometimes true of me. I feel this way about half the time.	Usually true of me. I feel this way more than half the time.	Almost always true of me. There are very few times when I don't feel this way.	
1 I'm looking forward to learning as long as I'm living.	1	2	3	4	5	
2 I know what I want to learn.	1	2	3	4	5	
3 When I see something that I don't understand, I stay away from it.	1	2	3	4	5	
4 If there is something I want to learn, I can figure out a way to learn it.	1	2	3	4	5	
5 I love to learn.	1	2	3	4	5	
6 It takes me a while to get started on new projects.	1	2	3	4	5	
7 In a classroom, I expect the teacher to tell all class members exactly what to do at all times.	1	2	3	4	5	
8 I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education.	1	2	3	4	5	
9 I don't work very well on my own.	1	2	3	4	5	

		Almost never true of me. I hardly ever feel this way	Not often true of me. I feel this way less than half the time	Sometimes true of me. I feel this way about half the time	Usually true of me. I feel this way more than half the time	Almost always true of me. There are very few times when I don't feel this way
10	If I discover a need for information that I don't have, I know where to go to get it.	1	2	3	4	5
11	I can learn things on my own better than most people.	1	2	3	4	5
12	Even if I have a great idea, I can't seem to develop a plan for making it work.	1	2	3	4	5
13	In a learning experience, I prefer to take part in deciding what will be learned and how.	1	2	3	4	5
14	Difficult study doesn't bother me if I'm interested in something.	1	2	3	4	5
15	No one but me is truly responsible for what I learn.	1	2	3	4	5
16	I can tell whether I'm learning something well or not.	1	2	3	4	5
17	There are so many things I want to learn that I wish that there were more hours in a day.	1	2	3	4	5
18	If there is something I have decided to learn, I can find time for it, no matter how busy I am.	1	2	3	4	5
19	Understanding what I read is a problem for me.	1	2	3	4	5
20	If I don't learn, it's not my fault.	1	2	3	4	5
21	I know when I need to learn more about something.	1	2	3	4	5
22	If I can understand something well enough to get a good grade on a test, it doesn't bother me if I still have questions about it.	1	2	3	4	5
23	I think libraries are boring places.	1	2	3	4	5
24	The people I admire most are always learning new things.	1	2	3	4	5

		Almost never true of me I hardly ever feel this way	Not often true of me I feel this way less than half the time	Sometimes true of me I feel this way about half the time	Usually true of me I feel this way more than half the time	Almost always true of me there are very few times when I don't feel this way
25	I can think of many different ways to learn about a new topic	1	2	3	4	5
26	I try to relate what I am learning to my long-term goals	1	2	3	4	5
27	I am capable of learning for myself almost anything I might need to know	1	2	3	4	5
28	I really enjoy tracking down the answer to a question	1	2	3	4	5
29	I don't like dealing with questions where there is not one right answer	1	2	3	4	5
30	I have a lot of curiosity about things	1	2	3	4	5
31	I'll be glad when I'm finished learning	1	2	3	4	5
32	I'm not as interested in learning as some other people seem to be	1	2	3	4	5
33	I don't have any problem with basic study skills	1	2	3	4	5
34	I like to try new things, even if I'm not sure how they will turn out	1	2	3	4	5
35	I don't like it when people who [illegible] what they're doing point out [illegible] I am making	1	2	3	4	5
36	I'm good at thinking of unusual ways to do things	1	2	3	4	5
37	I like to think about [illegible]	1	2	3	4	5
38	I'm better than most people are at figuring out the things I need to know	1	2	3	4	5
39	I think of problems as challenges, not stop signs	1	2	3	4	5
40	I can make myself do what [illegible]	1	2	3	4	5

		Almost never true of me. I hardly ever feel this way.	Not often true of me. I feel this way less than half the time	Sometimes true of me. I feel this way about half the time	Usually true of me. I feel this way more than half the time	Almost always true of me. there are very few times when I don't feel this way.
41	I'm happy with the way I investigate problems.	1	2	3	4	5
42	I become a leader in group learning situations.	1	2	3	4	5
43	I enjoy discussing ideas.	1	2	3	4	5
44	I don't like challenging learning situations.	1	2	3	4	5
45	I have a strong desire to learn new things.	1	2	3	4	5
46	The more I learn, the more exciting the world becomes.	1	2	3	4	5
47	Learning is fun.	1	2	3	4	5
48	It's better to stick with the learning methods that we know will work instead of always trying new ones.	1	2	3	4	5
49	I want to learn more so that I can keep growing as a person.	1	2	3	4	5
50	I am responsible for my learning — [illegible] else is.	1	2	3	4	5
51	Learning how to learn is important to me.	1	2	3	4	5
52	I will never be too old to learn new things.	1	2	3	4	5
53	Constant learning is a bore.	1	2	3	4	5
54	Learning is a tool for life.	1	2	3	4	5
55	I learn several new things on my own each year.	1	2	3	4	5
56	Learning doesn't make any difference in my life.	1	2	3	4	5
57	I am an effective learner in the classroom and on my own.	1	2	3	4	5
58	Learners are leaders.	1	2	3	4	5

APPENDIX B

COVER LETTER AND QUESTIONNAIRE [illegible]

Dear :

Thank you for agreeing to participate in our analysis of self-directed learning. Your insights will be most helpful in identifying obstacles to self-directed learning.

Specifically, we need your help to identify obstacles that prevent self-directed learning. The results will be used by key executives in the Phoenix Air Guard to develop strategies to overcome these barriers. In addition, each of you will receive a copy of the final summary report.

I am attaching the first in a series of questionnaires designed to seek you assistance to clarify these issues. Please complete the enclosed questionnaire and return it to us in time for analysis on _____. Again, thank you for your help.

Sincerely,

[illegible]

QUESTIONNAIRE #1

What obstacles are present that prevent self-directed learning?

Please be clear and concise. Thank you

Obstacles:

e.g. Lack of time

Signature: _____
(Optional)

APPENDIX C

COVER LETTER AND QUESTIONNAIRE FOR [illegible]

Dear Colleague:

Subj: Delphi Project: Self-directed Learning, Questionnaire #2.

The Support Team has listed on two separate pages the responses to the questionnaire completed last month. Please do three things with these lists:

1. Review all items on each list. Comment, in one or two statements, on any item(s) you wish. You may argue in favor of an item, or request clarification. Brevity and clarity will facilitate analysis.

2. Select seven (7) barriers that you feel are the most important to the self-directed learning of adult learners. Assign the value seven (7) to the barrier you feel is most important. Six (6) to the next most important barrier and so on until the seventh item (the least important of the seven) is assigned a value of one (1). Remember that 7 should be assigned to the barrier you feel is most important to the adult learner.

3. Please forward this response back to my office address by 18 October 1987. Thank you once again for participation and interest in this project.

Sincerely,

[redacted]

QUESTIONNAIRE #2

Remember:

1. Choose only seven items.
2. Give weight of "7" to the most important, "6" to the second most ...

Vote	Barrier	Comment
____	1. Isolation	
____	2. Confusion over instructions	
____	3. Lack of feedback	
____	4. Lack of resources	
____	5. Lack of money	
____	6. Inadequate background	
____	7. Health	
____	8. No resources	
____	9. Family problems	
____	10. Institutional requirements	
____	11. Lack of motivation	
____	12. Lack of interest	
____	13. Lack of ability	
____	14. Geography	
____	15. Lack of direction	
____	16. Other obligations	
____	17. Lack of confidence	
____	18. Time management	
____	19. Space to study	
____	20. Lack of opportunities	
____	21. Lack of goal rewards	

Vote	Barrier	Comment
____	22. Lack of importance of program	
____	23. Competency level	
____	24. Maturity level of learners	
____	25. Fear	
____	26. Requires a great deal of effort	
____	27. Cultural	
____	28. Organizational	
____	29. Political	
____	30. Social factors	

APPENDIX D

COVER LETTER AND QUESTIONNAIRE #3, DELPHI

Dear Colleague:

Subj: Delphi Project: [illegible] Questionnaire #3.

I would like to again thank you for your prompt and informative responses to the other two questionnaires. Your cooperation is very much appreciated and your comments and suggestions were very valuable to the process in which we are presently involved.

Now it is time for the final questionnaire. After reading and compiling your comments, the staff has revised the questionnaire to reflect the amendments, deletions, and suggestions you made in your earlier responses.

Please follow the same process with these documents as you did for the last two rounds. Instructions are printed at the top of the questionnaire for your convenience. If you have any questions before you begin, please call me and I will be happy to assist you.

As with the other questionnaires, time is important to this process. Please fill out the questionnaire and return it to me in the enclosed envelope as soon as possible.

Thank you once again for your help and prompt attention to this matter.

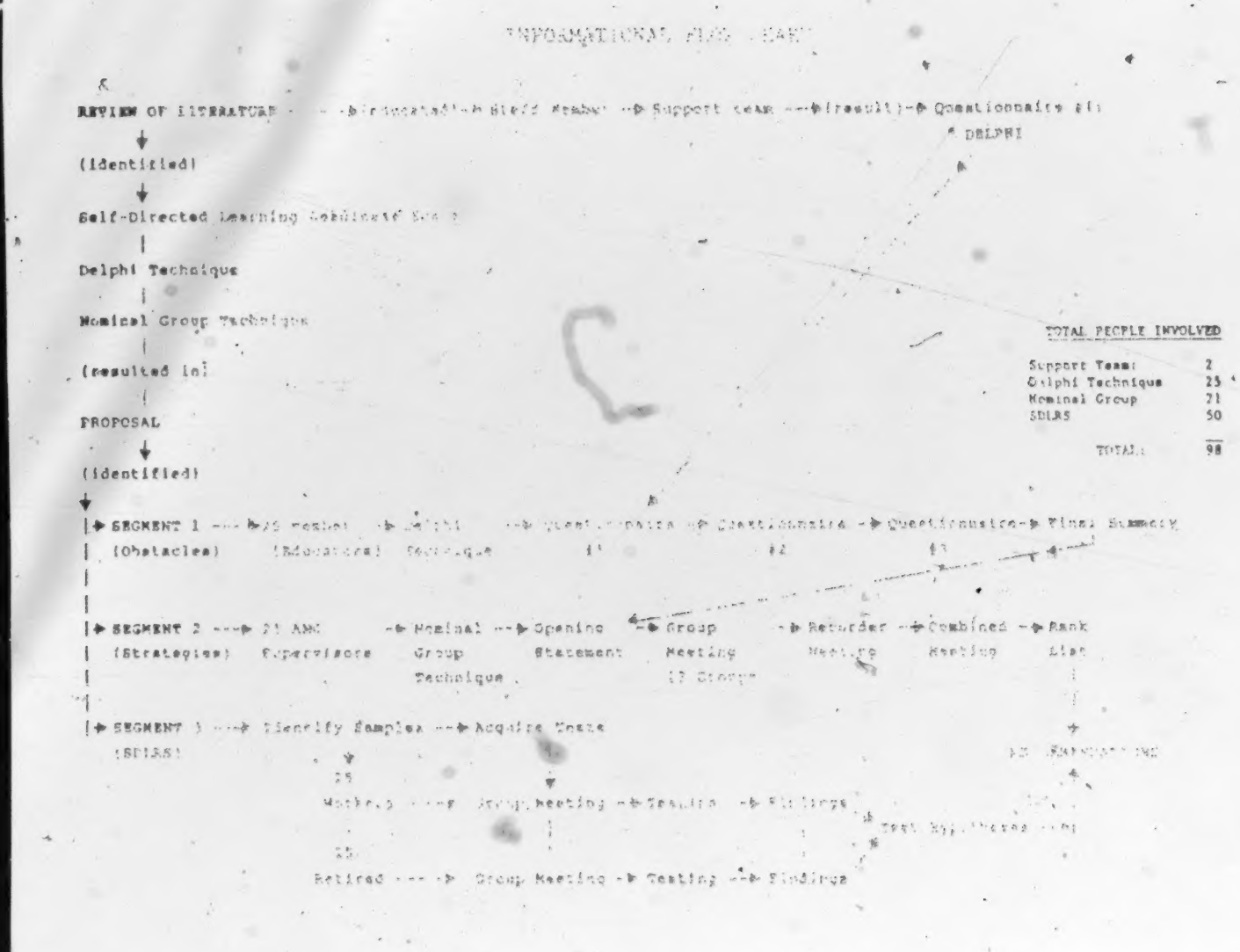
Sincerely,

Dorison Forbes

QUESTIONNAIRE #3

Directions: Select seven (7) obstacles that you feel are the most important to the self-directed learner. Assign the value seven (7) to the obstacle you feel is most important. Six (6) to the next most important obstacle and so on until the seventh item (the least important of the seven) is assigned a value of one (1). SELECT ONLY 7 OBSTACLES

FINAL VOTE REQUESTED	PRELIMINARY VOTE RESULTS	OBSTACLE	SUMMARY OF EARLIER COMMENTS
_____	77	Time Management	--Students need to focus on this area right away.
_____	75	Lack of Motivation	--A real issue-positive re-enforcement is a necessity. --Same as lack of interest. --Motivation to be driven-Type A.
_____	64	Other obligations	
_____	56	Requires a great of effort.	--This is the bottom line.
_____	49	Lack of Resources	--Need more information on available resources.
_____	41	Institutional Requirements	--Sometimes are linked with lack of feedback.
_____	37	Confusion over Instructions	
_____	34	Lack of Money	--Enough Said!
_____	32	Lack of Confidence	--Feeling of uncertainity in ones ability is a
_____	25	Isolation	--Networking is a major need.
_____	25	Inadequate Background	
_____	24	Competency Level	--Inadequacy is a major problem of the unconscious and conscious levels.
_____	22	No Resources	
_____	21	Family Problems	--Not family problems - family responsibilities.
_____	17	Fear	--No failure need be final.


INFORMATIONAL FLOW CHART
REVIEW OF LITERATURE
(identified)
Self-Directed Learning Competency Sys
Delphi Technique
Nominal Group Technique
(resulted in)
PROPOSAL
(identified)
SEGMENT 1
(Obstacles)
SEGMENT 2
(Strategies)
SEGMENT 3
(SDLRS)
Nominal Group Technique
Opening Statement
Group Meeting
Recorder
Combined Ranking
Rank List
Identify Samples
Acquire Waste
Workers
Retired
Group Meeting
Testing
Findings
TOTAL PEOPLE INVOLVED
Support Team: 2
Delphi Technique 25
Nominal Group 21
SDLRS 50
TOTAL: 98

NOMINAL GROUP WORKSHEET

"You will notice that the question which is the focus of our meeting is the following:

What Strategies could be used to overcome the following obstacles?

1. Other Obligations.
2. Time Management.
3. Requires a Great Deal of Effort.
4. Lack of Motivation.
5. Confusion over Instructions.
6. Lack of Resources.
7. Institutional Requirements.

"I would like each of you to take ten minutes to list your ideas in response to this question. Please work independently of other members in determining strategies. During this period of independent thinking I ask that you not talk to other members, interrupt their thinking, or look at their worksheets. Since this is the opportunity for each of us to prepare his or her contributions to the meeting, I would appreciate intense effort during the next ten minutes. At the end of ten minutes, I will call time and suggest how we can proceed to share our ideas. Are there any questions? Let's proceed then with our individual effort for the next ten minutes."

[illegible]

[illegible]

For more space use reverse [illegible]

DELPHI PROCESS TALLY SHEET

Questionnaire #3 Results

Obstacle	Final Vote*	Rank Order
A. Time Management	107	2d
B. Lack of Motivation	54	4th
C. Other Obligations	122	1st
D. Requires a Great Deal of Effort	60	3d
E. Lack of Resources	52	6th
F. Institutional Requirements	50	7th
G. Confusion over Instructions	51	5th
H. Lack of Money	48	11th
I. Lack of Confidence	32	10th
J. Isolation	33	9th
K. Inadequate Background	14	13th
L. Competency Level	7	14th
M. No Resources	7	14th
N. Family Problems	49	8th
O. Fear	17	12th

Number of Votes Cast

Additional Comments:

1. Not all obstacles are applicable to all people.
2. Responses E and M may be seen as being the same.

APPENDIX H

SAURS QUESTIONNAIRE COVER LETTER

Dear

Hello! This letter is to request your assistance on my doctorate dissertation. I am presently a doctorate student with Nova University and completing my dissertation in the subject area of self-directed learning and the military. This study will look at how the military encourages the self-directed learner to complete formal training and other military professional classes. The study will also look at retired military members to see how they view themselves as self-directed learners.

Your assistance is needed by completing the enclosed questionnaire on self-directed learning and returning it to my home in the enclosed addressed envelope. I will provide you with a copy of the results. Your name is not use, a number has been assigned to track your results so that feedback can be provided to you once the testing has been completed.

Please take about ten minutes and complete the questionnaire. Follow the directions on the front of the questionnaire and answer all 58 items. Thank you for your time and trouble.

Sincerely,

P.S.
This fifty cents is for a cup of coffee or a soda to reward you for helping me out!
THANKS.....

APPENDIX I

INDIVIDUAL SDLRS SCORE REPORT

guglielmino & associates

INDIVIDUAL SDLRS SCORE REPORT

Your score on the SELF-DIRECTED LEARNING READINESS SCALE (SDLRS) was _____.

The average score for adults completing the questionnaire is 214. The standard deviation is 25.59. The SDLRS measures your readiness for self-directed learning. Research has suggested that individuals who have developed high self-directed learning skills perform better in jobs requiring:

1. A high degree of problem solving ability.
2. A high degree of creativity.
3. A high degree of change.

Factor analysis indicates the presence of eight factors in self-direction in learning:openess to learning opportunities, self-concept as an effective learner,love of learning, creativity, future orientation and the ability to use problem solving skills.

If your score is between:	Then your readiness for self-directed learning is:
58-176	low
177-201	below average
202-226	average
227-251	above average
252-290	high

If we can answer any questions concerning your score, please call us at 305-391-0279. Thank you for your interest in this area of learning preference.

Sincerely,

Lou, Pam and Dave Guglielmino

7961 Arlington, Miami Beach, Florida 33141 • 305 391-0279

BIOGRAPHICAL SKETCH OF PARTICIPANT

BIOGRAPHICAL SKETCH OF JAMES BRISON TORBERT

James Brison Torbert was born August 15, 1946 in New York City, New York, the son of James and Catherine M. Torbert. He earned a Bachelor of Arts degree in Industrial Technology from Arizona State University in 1968 and a Master of Education degree in Counseling from Our Lady of Lake University in 1973. In 1968, he was commissioned in the United States Air Force and saw duty in five State-side bases and the Republic of Vietnam. He is graduate of twenty-seven military schools including Undergraduate Navigator Flight Training and the National Defense University.

From 1977 to 1980, he served as the Chief Standardization Flight officer for the Arizona National Guard. In 1981, he accepted a full-time teaching position with the Alhambra School District in Phoenix, Arizona. He is a licensed classroom teacher, community college teacher, and guidance counselor.

He left the Alhambra School District in 1983, to become the Assistant Aircraft Maintenance Officer for the National Guard of Arizona. At present, he is a Federal Civil Service supervisor, Flight Training Officer, Instructor Navigator, and a coordinator for community service projects. He is a combat veteran with over 3,000 flight hours in military aircraft and has been awarded seventeen military citations, medals or commendations.